

ART 34 3441

FOR FURTHER PROSECUTION IN US

We claim:

5 1. A process for the preparation of a crystalline solid comprising at least one zeolitic material, in which the solid is crystallized from at least one precursor compound and the reaction discharge of the crystallization is fed directly to a drying stage, drying being carried out in an atmosphere comprising less than 10% by volume of oxygen and at least one inert gas.

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2. The process as claimed in claim 1, characterized in that said drying is spray-drying.

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~~3. The process as claimed in claim 1 or 2, characterized in that said crystallization is carried out in the presence of at least one template compound.~~

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4. The process as claimed in claim 3, characterized in that, after contact with the atmosphere in the form of a carrier gas stream with the reaction discharge to be dried, condensable template compounds present in the stream are condensed out.

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~~5. The process as claimed in claim 3, characterized in that template compounds which are included in the dried crystalline solid are separated from the solid by means of at least one wash process.~~

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6. A crystalline solid preparable by a process as claimed in claim 1, characterized in that the zeolitic material is a Ti, Ge, Te, Ta, V, Cr, Nb or Zr zeolite of the structure type ABW, ACO, AEI, AEL, AEN, AET, AFG, AFI, AFN, AFO, AFR, AFS, AFT, AFX, AFY, AHT, ANA, APC, APD, AST, ATN, ATO, ATS, ATT, ATV, AWO, AWW, BEA, BIK, BOG, BPH, BRE, CAN, CAS, CFI, CGF, CGS, CHA, CHI, CLO, CON, CZP, DAC, DDR, DFO, DFT, DOH, DON, EAB, EDI, EMT, EPI, ERI, ESV, EUO, FAU, FER, GIS, GME, GOO, HEU, IFR, ISV, ITE, JBW, KFI, LAU, LEV, LIO, LOS, LOV, LTA, LTL, LTN, MAZ, MEI, MEL, MEP, MER, MFI, MFS, MON, MOR, MSO, MTF, MTN, MTT, MTW, MWW, NAT, NES, NON, OFF, OSI, PAR, PAU, PHI, RHO, RON, RSN, RTE, RTH, RUT, SAO, SAT, SBE, SBS, SBT, SFF, SGT, SOD, STF, STI, STT, TER,

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THO, TON, TSC, VET, VFI, VNI, VSV, WEI, WEN, YUG, ZON and ITQ-4 or of a mixed structure comprising two or more of these structures or a mixture of two or more of these zeolites.

- 5    7. A solid as claimed in claim 6, characterized in that the zeolitic material comprises at least one element selected from the group consisting of aluminum, titanium, boron, iron, gallium, vanadium, zirconium, zinc, tin, tellurium, germanium, rare earth metals and a mixture of two or more thereof, and/or at least one element selected from the group consisting of sodium, potassium, magnesium, calcium, metals of groups Ib, IIb and VIIa and a mixture of two or more thereof.

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8. The use of a solid preparable as claimed in claim 1 or of a solid as claimed in claim 6 as a catalyst, as a support material for a catalyst, as a sorbent, as a pigment or as a filler for plastics.

9. An integrated process for the preparation of a crystalline solid comprising at least one zeolitic material, in which

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- (i) the solid is continuously crystallized from at least one precursor compound in the presence of at least one template compound,
- (ii) the reaction discharge from the crystallization is continuously spray-dried, no component of the reaction discharge of the crystallization being separated off before the drying,
- (iii) the drying is carried out in an atmosphere comprising oxygen, preferably less than 10% by volume of oxygen, and at least one inert gas, this atmosphere being circulated as a carrier gas stream,
- (iv) template compounds condensable from the carrier gas stream after contact of the stream with the reaction discharge to be dried are condensed out and are recycled to (i),
- (v) the spray-dried crystalline solid from (ii) is subjected to a continuous wash process in which template compounds which are included in the crystalline solid are separated off and recycled to (i), and
- (vi) the crystalline solid obtained from (v) is calcined, the energy released as a result of burning of the remaining amount of template compounds being fed back to (i).

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